

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A wireless apparatus comprising:
a forward error correction (FEC) coder to encode digital data using a low density parity check (LDPC) code, said FEC coder including:
a computer readable storage medium storing at least a first portion of a parity check matrix, wherein said parity check matrix is substantially as described in Appendix A and said first portion includes at least half of said parity check matrix;
a matrix multiplication unit to multiply input data by a transpose of said[[a]] first portion of said[[a]] parity check matrix to generate modified data;
a differential encoder to differentially encode said modified data to generate coded data; and
a concatenation unit to concatenate the input data and the coded data to form a code word; and
a wireless transmitter to transmit a wireless signal that includes said code word.
2. (Original) The wireless apparatus of claim 1, wherein:
said wireless signal is an orthogonal frequency division multiplexing (OFDM) signal.
3. (Original) The wireless apparatus of claim 1, further comprising:
a mapper, between said FEC coder and said wireless transmitter, to map said code word based on a predetermined modulation scheme; and
an inverse discrete Fourier transform unit to convert mapped data from a frequency domain representation to a time domain representation.
4. (Currently Amended) The wireless apparatus of claim 1, wherein:
said first portion of said parity check matrix is a portion that includes columns of said parity check matrix having a column weight of 4~~said parity check matrix is substantially as described in the list file of Appendix A.~~

5. (Canceled)
6. (Currently Amended) The wireless apparatus of claim 1, ~~wherein further comprising:~~
~~a storage medium to store a representation of at least said first portion of said parity~~
~~check matrix~~ includes said entire parity check matrix for use by said matrix multiplication unit.
7. (Currently Amended) The wireless apparatus of claim 1 ~~[[6]]~~, wherein:
~~said storage medium stores said first portion of said parity check matrix as a matrix~~
~~transpose~~ is operative to store a representation of the entire parity check matrix.
- 8.-9. (Canceled)
10. (Currently Amended) The wireless apparatus of claim 1, wherein:
said LDPC code is a (2000, 1600) LDPC ~~bit-length~~ code.
11. (Original) The wireless apparatus of claim 1, wherein:
said wireless apparatus is a wireless user device for use in a wireless network.
12. (Original) The wireless apparatus of claim 1, wherein:
said wireless apparatus is a wireless access point.
13. (Original) The wireless apparatus of claim 1, wherein:
said wireless apparatus is a wireless network interface module.
14. (Original) The wireless apparatus of claim 1, wherein:
said wireless apparatus is an integrated circuit.
15. (Currently Amended) A method comprising:
accessing a computer readable storage medium storing a representation of at least a first

portion of a parity check matrix, wherein said parity check matrix is substantially as described in Appendix A and said first portion includes at least half of said parity check matrix;

matrix multiplying input data by a transpose of said[[a]] first portion of said[[a]] parity check matrix;

processing a result of said matrix multiplication using differential encoding to generate coded data;

concatenating said input data and said coded data to form a code word; and

generating and transmitting a wireless signal that includes said code word.

16. (Original) The method of claim 15, wherein:
said wireless signal is an orthogonal frequency division multiplexing (OFDM) signal.

17. (Canceled)

18. (Currently Amended) The method of claim 15, wherein:
said first portion of said parity check matrix is a portion that includes columns of said parity check matrix having a column weight of 4~~said parity check matrix is substantially as described in the list file of Appendix A.~~

19. (Canceled)

20. (Currently Amended) The method of claim 15, wherein:
said parity check matrix defines a (2000, 1600) ~~bit-length~~ LDPC code.

21. (Original) The method of claim 15, wherein:
generating and transmitting a wireless signal includes mapping said code word into modulation symbols and processing said modulation symbols using an inverse discrete Fourier transform.

22.-29. (Canceled)

30. (Currently Amended) A system comprising:

a forward error correction (FEC) coder to encode digital data using a low density parity check (LDPC) code, said FEC coder including:

a computer readable storage medium storing at least a first portion of a parity check matrix, wherein said parity check matrix is substantially as described in Appendix A and said first portion includes at least half of said parity check matrix;

a matrix multiplication unit to multiply input data by a transpose of said[[a]] first portion of said[[a]] parity check matrix to generate modified data;

a differential encoder to differentially encode said modified data to generate coded data; and

a concatenation unit to concatenate the input data and the coded data to form a code word;

a wireless transmitter to transmit a wireless signal that includes said code word; and

at least one dipole antenna coupled to said wireless transmitter to facilitate transmission of said wireless signal.

31. (Original) The system of claim 30, wherein:

said wireless signal is an orthogonal frequency division multiplexing (OFDM) signal.

32. (Currently Amended) The system of claim 30, ~~wherein~~further comprising:

said first portion of said parity check matrix is a portion that includes columns of said parity check matrix having a column weight of 4~~a storage medium to store a representation of at least said first portion of said parity check matrix for use by said matrix multiplication unit.~~

33. (Currently Amended) The system of claim 30, wherein:

said storage medium stores said first portion of said parity check matrix as a matrix transposesaid parity check matrix is substantially as described in the list file of Appendix A.

34. (Currently Amended) An article comprising a computer readable storage medium having

instructions stored thereon that, when executed by a computing platform, operate to:

matrix multiply input data by a transpose of a first portion of a parity check matrix, wherein said parity check matrix is substantially as described in Appendix A and said first portion includes at least half of said parity check matrix;

process a result of said matrix multiplication using differential encoding to generate coded data;

concatenate said input data and said coded data to form a code word; and

generate and transmit a wireless signal that includes said code word.

35. (Original) The article of claim 34, wherein:

said wireless signal is an orthogonal frequency division multiplexing (OFDM) signal.

36. (Original) The article of claim 34, wherein said instructions, when executed by the computing platform, further operate to:

access a storage medium having at least a portion of said parity check matrix stored thereon before matrix multiplying.

37. (Currently Amended) The article of claim 34, wherein:

said first portion of said parity check matrix is a portion that includes columns of said parity check matrix having a column weight of 4~~said parity check matrix is substantially as described in the list file of Appendix A.~~

38. (Currently Amended) The article of claim 34, wherein:

said parity check matrix defines a (2000, 1600) ~~bit-length~~ LDPC code.